Claims

What is claimed is:

1. An adaptive interconnect for providing an interface between multiple modules and a control system comprising:
   a) a control system interface;
   b) a plurality of module interfaces; and
   c) adaptive interconnect logic associated with the control system interface and the plurality of module interfaces and adapted to:
      i) negotiate with a module over a control path via one of the plurality of module interfaces to identify an interface personality for the module;
      ii) select the interface personality based on negotiations with the module; and
      iii) apply the interface personality to the one of the plurality of module interfaces.

2. The adaptive interconnect of claim 1 wherein different interface personalities can be implemented simultaneously among the plurality of module interfaces.

3. The adaptive interconnect of claim 1 wherein the adaptive interconnect logic is further adapted to renegotiate with the module over the control path if initial negotiations fail.

4. The adaptive interconnect of claim 3 wherein if the renegotiation fails, the adaptive interconnect logic is further adapted to send a notification of failure.

5. The adaptive interconnect of claims 1 wherein the adaptive interconnect logic is further adapted to:
   a) receive a stimulus indicative of a change in personality for the module;

b) renegotiate with the module over the control path via one of the plurality of module interfaces to identify a new interface personality for the module;
c) select the new interface personality based on the renegotiations with the module; and
d) apply the new interface personality to the one of the plurality of module interfaces.

6. The adaptive interconnect of claim 1 wherein negotiating, selecting and applying the interface personality are dynamic and occur automatically upon plugging the module into the one of the plurality of module interfaces.

7. A method for providing an interface between multiple modules and a control system comprising:
a) negotiating with a module over a control path via one of a plurality of module interfaces to identify an interface personality for the module;
b) selecting the interface personality based on negotiations with the module; and
c) applying the interface personality to the one of the plurality of module interfaces.

8. The method of claim 7 wherein different interface personalities can be implemented simultaneously among the plurality of module interfaces.

9. The method of claim 7 further comprising renegotiating with the module over the control path if initial negotiations fail.

10. The method of claim 9 wherein if the renegotiation fails, further comprising sending a notification of failure.

11. The method of claim 7 further comprising:

a) receiving a stimulus indicative of a change in personality for the module;

b) renegotiating with the module over the control path via one of the plurality of module interfaces to identify a new interface personality for the module;

c) selecting the new interface personality based on the renegotiations with the module; and

d) applying the new interface personality to the one of the plurality of module interfaces.

12. The method of claim 7 wherein negotiating, selecting and applying the interface personality are dynamic and occur automatically upon plugging the module into the one of the plurality of module interfaces.